Faunitaxys

Revue de Faunistique, Taxonomie et Systématique morphologique et moléculaire

Volume 13
Numéro 47

Septembre 2025

ISSN (Print) : 2269 - 6016
ISSN (Online) : 2970 - 4960
Dépôt légal : Septembre 2025

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Revue de Faunistique, Taxonomie et Systématique morphologique et moléculaire

ZooBank : https://zoobank.org/79A36B2E-F645-4F9A-AE2B-ED32CE6771CC

Directeur de la publication, rédacteur, conception graphique et PAO:
Lionel Delaunay

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La parution de *Faunitaxys* est apériodique

Faunitaxys est indexé dans / ***Faunitaxys*** is indexed in:
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- ZooBank (https://zoobank.org)
Online Archives:
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Imprimée sur les presses de SPEED COPIE, 6, rue Tréfilerie, F- 42100 Saint-Etienne

Imprimé le 22 09 2025

Golden *Orthomeria* Kirby, 1904; two new species with uncommon coloration (Aschiphasmatidae: Phasmatodea)

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Keywords:

Phasmida;
Phasmids;
Orthomeria;
Taxonomy;
description;
new species;
Luzon;
Palawan;
Philippines;
Southeast Asia.

Abstract. – At the moment eight species are recognized within *Orthomeria* Kirby, 1904, all with legs and bodies that are mostly if not all uniformly brown or black colored. Herein we describe two new species of *Orthomeria* with unique yellow coloration. *Orthomeria marceli* **sp**. **nov**. described from Mount Barlig, Luzon, Philippines is distinguishable from congenerics by both sexes having a yellow head, thorax, and abdomen. *Orthomeria javieri* **sp**. **nov**. described from Roxas, Palawan, Philippines is distinguishable from congenerics by males having lighter colored tibiae/tarsi versus the femoral coloration and the female having exceptionally short hindwings, only reaching ca. halfway along the dorsal surface of the abdomen when at rest. To conclude, a key to *Orthomeria* species is presented with the herein new species included, as well as previously unknown opposite sexes.

Cumming R.T. & Le Tirant S., 2025. – Golden *Orthomeria* Kirby, 1904; two new species with uncommon coloration (Aschiphasmatidae: Phasmatodea). *Faunitaxys*, 13(47) : 1 – 11.

DOI: https://doi.org/10.57800/faunitaxys-13(47)

ZooBank: https://zoobank.org/AA2D52CA-C4F3-42B8-BE5C-2D8E6000624C

Received: 30/08/2025 – *Revised*: 08/09/2025 – *Accepted*: 10/09/2025

Introduction

The stick insect genus *Orthomeria* Kirby, 1904 belongs to the Southeast Asian Aschiphasmatidae (Brock et al., 2025) and currently includes eight described species. Six of these were described over a century ago, while the remaining two were only described in the past several years (Vallotto et al., 2016; Hennemann, 2021). Members of *Orthomeria* are typically small (approximately 40–60 mm in length), with relatively thick, dark brown to black bodies. Although some species display small highlights of bright coloration on the wings or eyes. Geographically, the *Orthomeria* are found on Borneo, Seram, Sulawesi, and the Philippines (Bragg, 2001; Hennemann, 2021). Bragg (2001) revised the genus, and Seow-Choen (2016; 2017) discussed and illustrated the Bornean species in detail. Vallotto et al. (2016) described a brightly colored species from Luzon, Philippines (*Orthomeria kangi*) and provided extensive illustrations, external morphological descriptions, and notes on host plants and habitat. Most recently, Hennemann (2021) illustrated the female of the Sulwesian *Orthomeria forstenii* (Haan, 1842)—previously known only from males—and described the new species *Orthomeria limogesi* Hennemann & Le Tirant, 2021 from Peleng.

Of the eight currently described *Orthomeria* species, only five can be considered "well-known." These species are represented by large series of specimens in multiple institutional and private collections, have both sexes documented, and have clearly defined geographic distributions (Hennemann, 2021). The remaining three species—*Orthomeria xanti* (Redtenbacher, 1906), *Orthomeria smaragdinum* (Redtenbacher, 1906), and *Orthomeria pandora* (Westwood, 1859)—are more problematic.

Orthomeria xanti is known primarily from a male syntype in the Naturhistorisches Museum Wien (NHMW; Museum of Natural History, Vienna, Austria). This specimen was originally deposited in the Hungarian Natural History Museum (HNHM), but was fortunately transferred to the NHMW before a fire destroyed the HNHM type collection (Brock, 1998). Redtenbacher (1906) described the species from a male–female pair, but the female does not appear to have been transferred and was likely lost in the fire. A review of collections, citizen-science records on iNaturalist, and literature revealed only one additional record: a specimen in the Royal Belgian Institute of Natural Sciences (RBINS) from "Nord Bornéo" (Vanschuytbroeck & Cools, 1981).

Orthomeria smaragdinum was long known only from its damaged male type specimen (missing the end of the abdomen), collected from the vague locality "Borneo" and housed in NHMW (Brock et al., 2025; Seow-Choen, 2016; Seow-Choen, 2017). In recent years, however, additional specimens which appear to be this species have been collected and sequenced (Li et al., 2022), and multiple iNaturalist

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records have been reported from northern Borneo. Particularly exciting are observations of females with similar eye, antennal, and wing morphology, which may represent the previously unknown female of this species.

The final poorly defined species, *Orthomeria pandora* (Westwood, 1859), was described from three males with vague localities listed as "Philippines" and the island of "Seram" in Indonesia (Hennemann, 2021). A similar appearing female specimen, labeled with the likely incorrect locality "Sumatra" and originally described as *Orthomeria catadromus* (Westwood, 1859), was synonymized with *Orthomeria pandora* by Vallotto et al. (2016). Unfortunately, the morphology shared by *Orthomeria pandora* and *Orthomeria catadromus* is common across a broad geographic area, suggesting that multiple morphologically similar but distinct species may exist. This common morphology, coupled with the vague type localities, makes clarification of this species difficult. Further morphological review across the range, coupled with phylogenetic analysis, will be necessary to clarify this taxon and better resolve species diversity and distribution.

To further our understanding of *Orthomeria* diversity, our review of morphologically unique specimens has revealed two undescribed species. To facilitate their identification, herein these two taxa are fully illustrated and described and an updated species key is generated, adapted from Bragg (2001) and Vallotto et al. (2016), with additional diagnostic traits from Hennemann (2021).

Material and methods

Specimens

Specimens and observations for this study come from museum collections, several private collections, and from the citizen-science based platform iNaturalist.com. Additionally, besides reviewing specimens in person, we also utilized the high-quality images of many type specimens available on "Phasmida Species Files Online" (http://phasmida.speciesfile.org). Measurements of specimens were made to the nearest 0.1 mm using digital calipers and are given for individual specimens. Holotype and paratype specimens herein designated are deposited within several different institutional and private collections which are explicitly listed within the type material information of the new species descriptions where the following collection acronyms are used:

HNHM Hungarian Natural History Museum, Budapest, Hungary
IMQC Insectarium de Montréal, Montréal, Québec, Canada
NHMW Museum of Natural History, Vienna, Austria
RBINS Royal Belgian Institute of Natural Sciences, Brussels, Belgium
Coll FH Private collection of Frank H. Hennemann, Germany
Coll RC Private collection of Royce T. Cumming, California, USA
Coll SLT Private collection of Stéphane Le Tirant, Québec, Canada

Photography

The specimens described and illustrated herein were morphologically reviewed using a 2x-225x trinocular boom stand stereo microscope (#ZM-4TW3-FOR-20MBI3) and photographs were taken with an attached high-speed 20MP camera (#MU2003-BI-CK) (AmScope, Irvine, USA). Illumination was from a 6-Watt LED dual gooseneck illuminator lit by a #85-265VAC/50-60Hz lighting unit (AmScope, Irvine, USA). Measurements were taken using an AmLite digital camera soft- ware for Mac OS X 10.8 64-bit which was calibrated with a 0.01 mm microscope stage calibration slide (#MR095) (AmScope, Irvine, USA). Adobe Photoshop Elements 13 (Adobe Inc., San Jose, USA) was used as post-processing software.

Taxonomy

Aschiphasmatidae, **Aschiphasmatinae**, **Aschiphasmatini**

Orthomeria Kirby, 1904

Type-species. – *Phasma* (*Ascephasma*) *forstenii* Haan, 1842 (= *Orthomeria forstenii* (Haan, 1842) by original designation).

Species of *Orthomeria* Kirby, 1904

1. ***Orthomeria forstenii*** (Haan, 1842). Distribution: Sulawesi (Indonesia).

2. ***Orthomeria javieri*** **sp**. **nov**. Distribution: Palawan, Philippines.

3. ***Orthomeria kangi*** Vallotto, Bresseel, Heitzmann & Gottardo, 2016. Distribution: Benguet Province, Luzon, Philippines.

4. ***Orthomeria limogesi*** Hennemann & Le Tirant, 2021. Distribution: Peleng Island, Indonesia.

5. ***Orthomeria marceli*** **sp**. **nov**. Distribution: Mount Barlig, Luzon, Philippines.

6. ***Orthomeria pandora*** (Westwood, 1859)
= *Orthomeria catadromus* (Westwood, 1859) [female with vague locality of "Sumatra"].
Distribution based upon the 3 ♂ type specimens: "Philippines" (vague), "Seram", Indonesia.
Notes: Potential species complex or multiple cryptic species which morphologically cannot easily be differentiated. No clear identification on which population is the true *Orthomeria pandora* at this time.

7. ***Orthomeria smaragdinum*** (Redtenbacher, 1906)

8. ***Orthomeria superba*** (Redtenbacher, 1906). Distribution: "Borneo" (recorded from multiple localities).

9. ***Orthomeria versicolor*** (Redtenbacher, 1906). Distribution: "Borneo" (recorded from multiple localities).

10. ***Orthomeria xanti*** (Redtenbacher, 1906). Distribution: "Borneo" (vague type locality, no specific localities known).

Orthomeria javieri **sp**. **nov**.

(Fig. 1-2)

ZooBank: https://zoobank.org/EA5BB6B9-0713-40E7-BFE4-070E8ACDE8A5

Holotype, ♂, Philippines, Palawan, Roxas, July 2020; Coll RC. Tissue sample: DNA#010 / SB0601 [IMQC].

Paratypes (**12** ♀, **13** ♂)

Coll SLT (**3** ♂), Philippines, Palawan, Roxas, Magara; Nov. 2019.

Coll FH (**4** ♀, **9** ♂)

- **1** ♀, Philippinen, S-Palawan, MMPL, Mantalingahan Mtn Range, Mount Mantalingahan, MMPL, III.2009 [FH No. 1242-1].
- **3** ♀, **11** ♂, Philippinen, N-Palawan, Provinz Palawan, Roxas Municip., Magara, local collector, IX.-XI.2012 [FH No's 1242-2 to 15].

Coll RC (**8** ♀, **1** ♂)

- **1** ♀, Philippines, Palawan, Roxas; July 2020; Coll RC #011, Tissue sample SB0602.
- **1** ♀ (nymph), Philippines, Palawan, Roxas; July 2020.
- **2** ♀, Philippines, Palawan, Roxas; July 2020.
- **2** ♀ (nymphs), Philippines, Palawan, Roxas; July 2020.
- **1** ♂ (nymph), Philippines, Palawan, Roxas; August 2020.
- **2** ♀ (nymphs), Philippines, Palawan, Roxas; August 2020.

Etymology. – Patronym. This species is named in honor of Javier Blasco-Aróstegui (Spain), renowned arachnologist, steadfast friend, and expert at turning the first author's time in New York City into an adventure. The first author fondly recalls Javier's energy and good humor during time spent together at the American Museum of Natural History and the many pints the two shared. Of particular note, while Javier may be a general arachnologist, his expertise in scorpionology is particularly memorable thanks to Javier keeping the first author's now wife distracted in the scorpion collection while the first author planned his surprise proposal in the hall of ocean life imminently

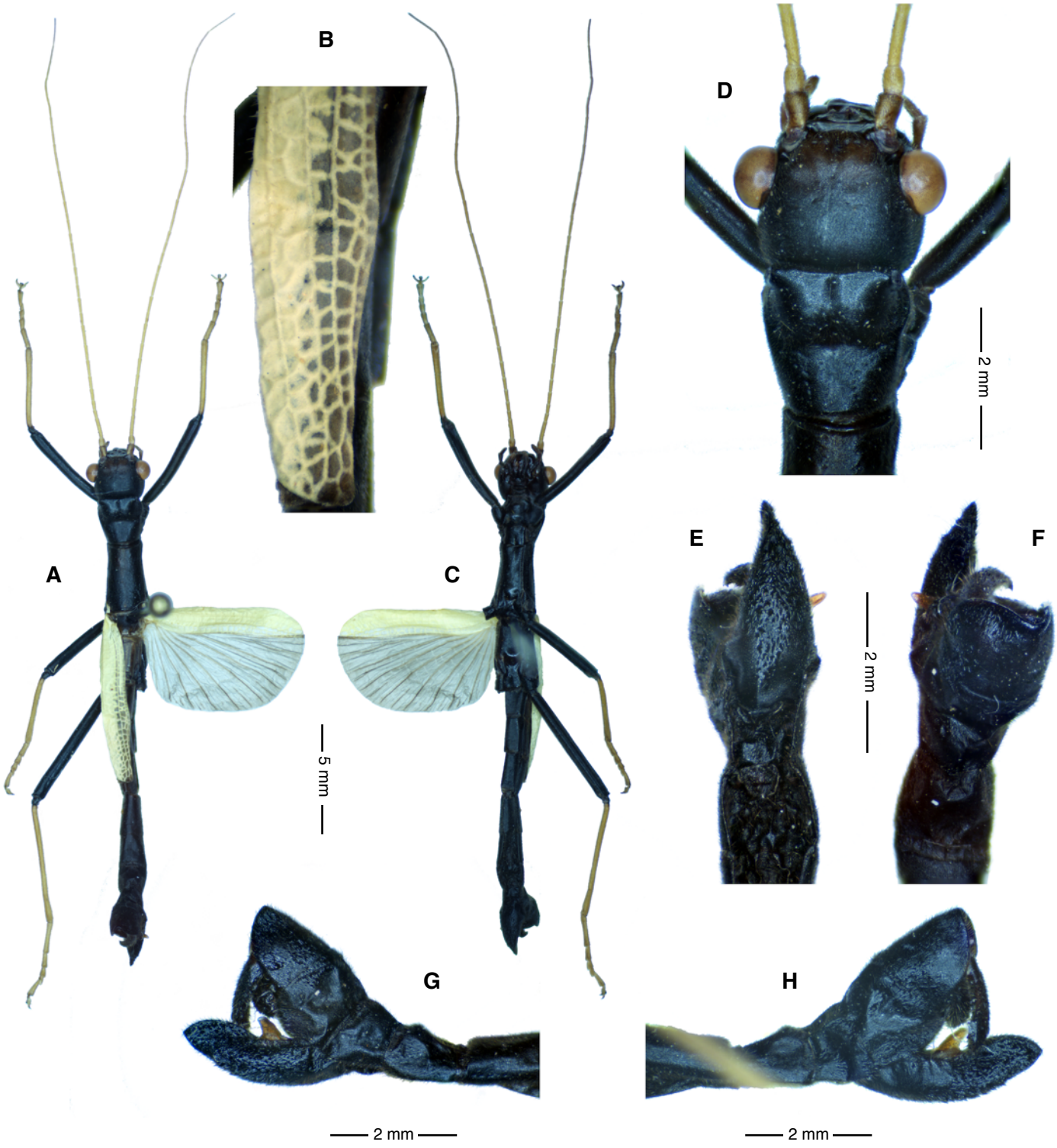

Fig. **1**. *Orthomeria javieri* **sp**. **nov**., ♂, holotype [IMQC].

A. Dorsal habitus. **B**. Details of folded ala. **C**. Ventral habitus. **D**. Base of antennae, head, and pronotum, dorsal view. **E**. Terminalia, ventra. **F**. Terminalia, dorsal. **G**. Terminal abdominal segments in right lateral view. **H**. Terminal abdominal segments in left lateral view.

following the collection visit. In the spirit of Javier's favored phrase, *Sic parvis magna* ("Greatness from small beginnings"), this small insect stands as a fitting tribute to a man whose impact on science and the lives of those around him looms large.

Differential diagnosis. – Males can be differentiated from congeners by the leg coloration as their legs are bicolored, with tibiae and tarsi yellow and the femora black. All other species have legs which are unicolored (all other known species have males with dark brown/black legs). Additionally, the alae are notably shorter than any known species as they only reach about ½ along the abdomen versus all other species with longer alae reaching ~¾ of the way along the abdomen. Males are also distinctly the smallest *Orthomeria* species currently known, ranging in size from 22.0-26.8 mm; while females are more average in size when compared with congeners (41.0-47.0 mm). Females can also be distinguished by their shortened alae as they typically only reach onto abdominal segment IV versus all other species which reach well onto segment V or even onto segment VI.

Description

The coloration is described upon dried specimens and photographs taken of live specimens uploaded to iNaturalist.com.

♂

Coloration. – In living specimens, the antennae are dark orange, the compound eyes are bright red, the tegmina and sclerotized portion of the alae are bright orange, the tibiae and tarsi are grey-yellow, and the head, body, and femora are black. In preserved specimens (Fig. 1), likely due to the preservation process, the antennae, tarsi, tibiae, tegmina, and sclerotized portion of the alae are bright yellow, compound eyes are dull red, while the head, body, and femora are black.

Head. – Slightly longer than wide, slightly prognathous when viewed laterally, vertex flat and smooth (Fig. 1D). Compound eyes large, occupying slightly more than ½ of the head capsule lateral margin (Fig. 1D). Gula sclerite squat and not very wide. Antennae long and thin, consisting of at least 46 antennomeres (holotype antennae tips broken). Scapus and pedicellus nearly circular in cross-section. Scapus slightly longer than wide. Pedicellus slightly narrower at the apex; length slightly shorter than scapus. Antennomere III about as long as the scapus and pedicellus combined lengths. All following segments are shorter than segment III, and vary slightly in lengths, most through the middle relatively long, distal most segments shorter.

Thorax. – Pronotum slightly rounded trapezoidal, the anterior margin slightly wider than the posterior margin (Fig. 1D). The anterior half of the pronotum is strongly raised into a somewhat lemniscate bulge above the posterior half. Pronotum dorsal surface marked by a faint sagittal furrow on the anterior half, which on the anterior margin forms a distinct pit (Fig. 1D). Pronotal foramen located on each side of the anterior margin, angled slightly laterally. Anterior pronotum margin slightly concave, posterior pronotum margin slightly convex. Mesonotum slightly trapezoidal with the anterior slightly thinner than the posterior margin; ~1.5x longer than pronotum and ~1.8x longer than wide. Mesosternum flat and smooth, marked only with a slight longitudinal sagittal furrow on anterior ⅓ only. Metanotum slightly wider than long, simple. Metasternum simple and smooth. Tegmina very small, not much more than a small nub. Alae short, reaching ¾ of the way along abdominal segment IV. Radial vein thickest and sclerotized, others slightly thinner; all ala veins simple and unbranched. Numerous short crossveins present across the ala (Fig. 1B). Median segment ~1.9x longer than the metanotum.

Abdomen. – Abdomen (excluding median segment) ~1.23x longer than head, thorax, and median segment lengths combined. Segments II-IV slightly narrowing steadily to the narrowest point of the abdomen, the connection between segments IV and V. Segments V-VII widening slightly throughout the length; segments VIII-X notably shorter but increasing in height as the terminalia thickens upward instead of outward (Fig. 1G). Epiproct small and fully hidden under anal segment. Vomer large and triangular, surface covered in stiff, short setae, except for on the small strongly curved and sharp terminal hook. Cerci long and prominent, laterally compressed, inward and downward curving, general shape slightly sickle-like but with the apex slightly broader than the base. The interior apical margin of the sickle shape has a smooth and finely edged ridge which has two distinct points and a thin smooth looping gap between these points (Fig. 1H). Sterna IX deeply keeled and projecting beyond the apex of the abdomen with about ⅓ of its length projecting beyond the apex of the abdomen (Fig. 1G).

Legs. – All femora circa twice as thick as their corresponding tibiae; tibiae slightly shorter than their corresponding femora. All femora and tibiae simple, tube-like, and smooth, marked with slight pubescence throughout. Basitarsus of the pro- and metatarsi similar in length to the following three corresponding segments combined; basitarsus of the mesotarsi shorter, only about as long as the following two segments combined lengths. Ungues slightly pectinate.

♀

Coloration. – In living specimens: the compound eyes are blue; the legs, head, and body are brown (sometimes with a greenish hue); abdominal tergite VII is tan; the sclerotized area of the alae is sometimes a similar brown color to the body or can be faintly greenish on greener individuals; the membranous areas between veins on the sclerotized area of the alae is black; and near the connections regions of the femora to the thorax the membranes can be pink/reddish in color. In preserved specimens (Fig. 2), the colors are similar, but the compound eyes blue color fades to brown, and the areas highlighted in pink/red near the femoral joints fade.

Head. – Slightly wider than long, slightly prognathous when viewed laterally, vertex flat and smooth (Fig. 2E). Compound eyes large, occupying circa ½ of the head capsule lateral margin (Fig. 2E). Gula sclerite squat and not very wide. Antennae long, consisting of at least 48 antennomeres (paratype female has the tips of both antennae missing). Scapus slightly compressed dorsally, pedicellus nearly circular in cross-section. Scapus stout, slightly longer than wide. Pedicellus slightly narrower at the apex; length slightly shorter than scapus. Antennomere III slightly shorter than the scapus and pedicellus combined lengths, there are a few segments near the mid section of the antennae which are longer than segment III. All following segments vary slightly in lengths, with those near the midlength longer than those preceding or following.

Thorax. – Pronotum a slightly rounded square, nearly the same length as width (Fig. 2D). When viewed laterally, the anterior half of the pronotum is slightly raised into a somewhat lemniscate bulge above the posterior half (Fig. 2E). Pronotum dorsal surface marked by a faint sagittal furrow on the raised anterior bulge, but no other prominent features across the rest of the surface (Fig. 2D). Pronotal foramen located on each side of the anterior margin, angled slightly laterally. Posterior pronotum margin slightly thickened and relatively straight. Mesonotum roughly rectangular with the posterior margin only slightly wider than the anterior margin; ~1.55x longer than the pronotum. Mesosternum flat and smooth, marked with longer setae along the lateral sutures. Metanotum ~1.9x wider than long, simple. Metasternum simple, similar long setae on the lateral sutures as found on the mesosternum. Tegmina nearly absent, at most the suture where they should be bulges slightly, but no real terminal flap is present as is seen in other *Orthomeria*. Alae short, reaching circa ¾ of the way along abdominal segment IV. Radial vein thickest and sclerotized, others slightly thinner; all ala veins simple and unbranched. Numerous short crossveins present across the ala. Median segment ~1.8x longer than the metanotum.

Abdomen. – Abdomen (excluding median segment) ~1.27x longer than head, thorax, and median segment lengths combined. Segments II-VI with similar lengths and widths, and nearly parallel sided. Abdominal segment VII narrows notably from the anterior to the posterior; segment VIII widens from the anterior to the posterior; segments IX and X narrow steadily to the broad apex. Terminal tergum

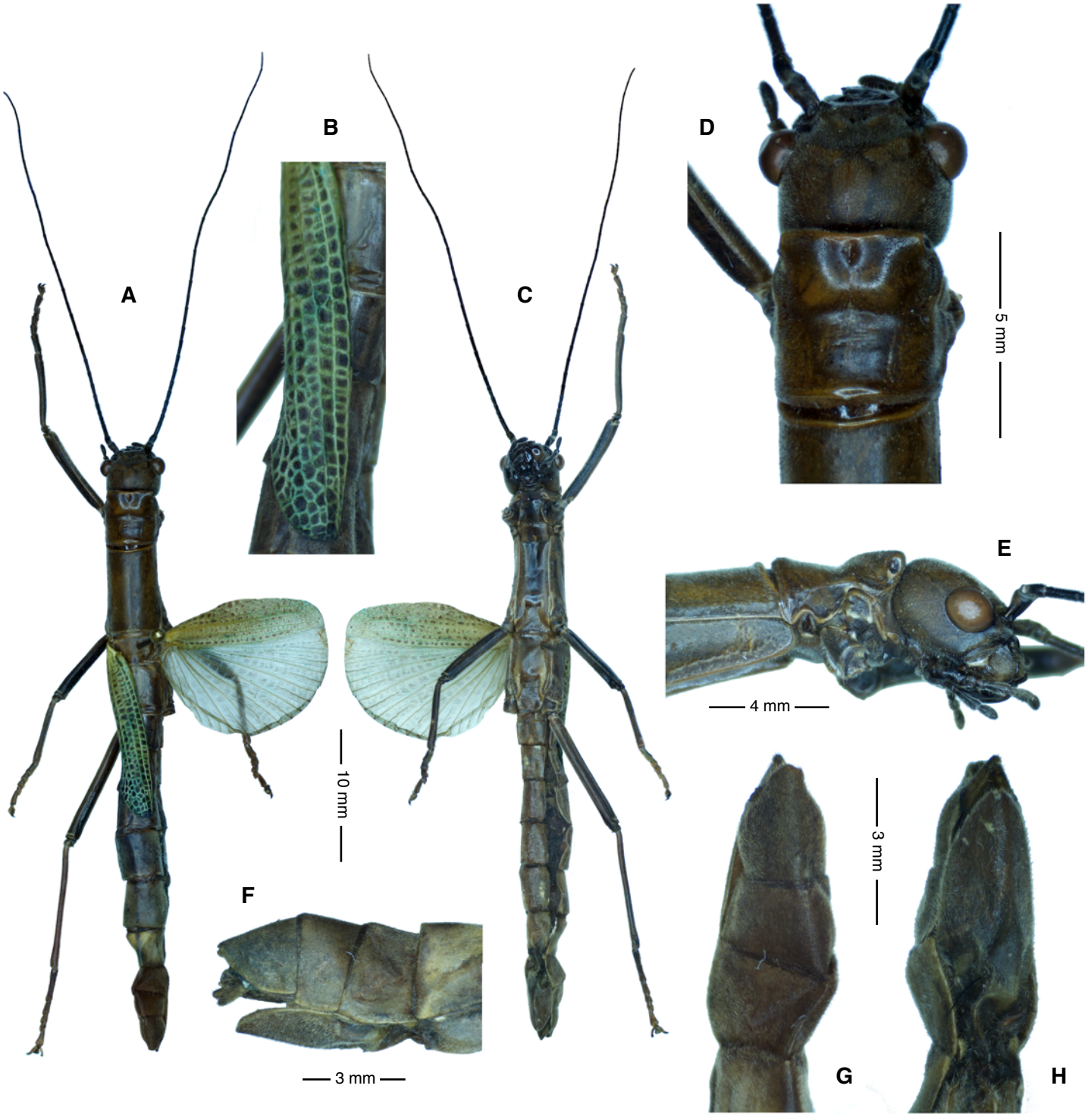

Fig. **2**. *Orthomeria javieri* **sp**. **nov**., ♀, paratype [Coll RC].

A. Dorsal habitus. **B**. Details of folded ala. **C**. Ventral habitus. **D**. Base of antennae, head, and pronotum, dorsal view. **E**. Base on antennae, head, and pronotum, lateral view. **F**. Terminalia, lateral. **G**. Terminal, dorsal. **H**. Terminal, ventral.

tectiform with the central portion projecting beyond the lateral edges; central portion projecting out slightly beyond the subgenital plate apex, ending in a broadly rounded apex (Fig. 2F). Cerci small, laterally flattened, covered throughout by long setae, gently converging throughout the length to the broad, rounded apex, projecting slightly beyond the posterior margin of anal segment (Fig. 2F). Subgenital plate not deeply keeled; not projecting beyond the abdomen apex; posterior margin not particularly narrow, moderately broad (Fig. 2H).

Legs. – All femora circa 2x times thicker than their corresponding tibiae; all tibiae slightly shorter than their corresponding femora. All femora and tibiae simple, tube-like, and smooth, all surfaces slightly pubescent. Basitarsus of the pro- and metatarsi similar in length to the following three corresponding segments combined; basitarsus of the mesotarsi shorter, only about as long as the following two segments lengths. Ungues slightly pectinate.

Measurements [mm]. **Holotype**, ♂.

Body 23.0
Head 2.1
Pronotum 2.3
Mesonotum 3.3
Metanotum 1.4
Median segment 2.0
Tegmina 0.6
Alae 7.7
Profemora 4.5
Mesofemora 4.5
Metafemora 6.7
Protibiae 3.5
Mesotibiae 3.5
Metatibiae 5.6
Antennae 20.5

Measurements [mm]. Average sized **paratype** ♀

Body 44.8
Head 4.8
Pronotum 4.4
Mesonotum 6.7
Metanotum 2.0
Median segment 3.8
Tegmina 0.0
Alae 13.3
Profemora 7.5
Mesofemora 6.6
Metafemora 9.6
Protibiae 5.6
Mesotibiae 5.2
Metatibiae 9.1
Antennae 31.8

Variability. – Females show some variability as observed in iNaturalist observational records. The most prominent variability is in the alae length (ranging from reaching ¾ the way onto abdominal segment IV to reaching the anterior margin of abdominal segment V) and some slight variability in the color of the sclerotized region of the alae, (although this may be due to preservation practice in dried specimens). There appears to be some overall color variation in females with some alae being more green while others are more brown. Additionally, some females exhibited abdominal tergum VII with a similar color to the preceding and following segments, while some females have this segment paler in color. Males show very little variability in color pattern or size.

Distribution. – Endemic to the Island of Palawan, Philippines. Likely found throughout the island as the type material is from Roxas (in the north) and there are iNaturalist observations of a male and female observed by Samuel Lee (iNaturalist user: @samuel_lee) from Tubtub, Palawan (in the south), and a parartype specimen from Mount Mantaligahan.

***Orthomeria marceli* sp. nov.**

(Fig. 3-4)

ZooBank: https://zoobank.org/CC4CE8D3-056D-4898-A52E-BCEF1B2D703E

Holotype, ♂, Philippines, Luzon, Mountain Province, Mt. Barlig, May 2018; Coll RC DNA#006 / SB0596 [IMQC].

Paratypes, **1** ♀, Philippines, Luzon, Mountain Province, Mt. Barlig, May 2018; Coll RC DNA#008 / SB0599 [Coll RC].

Etymology. – Patronym. Named to honor Marcel Gustavo Hermes, Brazilian vespid researcher. This new "golden" species was chosen for Marcel as he has a heart of gold, and all who know him are touched by his kindness and compassion. Marcel was instrumental in making the first author's (RTC) PhD journey in the American Museum of Natural History in New York City, USA into a lifelong adventure of friendship.

Differential diagnosis. – Both sexes of *Orthomeria marceli* sp. nov. are easily differentiated from congenerics as it is the only species known to have the head, thorax, and abdomen yellow in color versus all other *Orthomeria* have the head, thorax, and abdomen black/brown in color. At present only the type material is known, and the egg or nymph morphology are unknown.

Description

The colouration is described exclusively from the dried type specimens as no living records have been observed and no records have been uploaded to iNaturalist. It should be noted that especially for brightly colored *Orthomeria*, after being preserved, the brightest colors often fade, so it is likely that living representatives of this species may have brighter colors.

♂

Coloration. – Antennae, head, and thorax deep yellow colored; membrane between pronotum and mesonotum black; legs black. Abdomen: ventral surface deep yellow, similar to the thorax; abdominal segments dorsal surface patterned, grey base color marked with a yellow stripe along the sagittal plane and each segment is marked with a yellow triangle on the posterior margin (Fig. 3G). Tegmina deep yellow like the thorax coloration. Costal region of alae with black membranous areas surrounded by bright yellow veins. Anal region of alae with grey membranous areas; primary veins dark grey; transverse crossveins transparent.

Head. – Slightly longer than wide, slightly prognathous when viewed laterally, vertex flat and smooth (Fig. 3D). Compound eyes large, occupying circa ½ of the head capsule lateral margin (Fig. 3A). Gula sclerite squat and not very wide. Antennae long and thin, consisting of ca. 64-66 antennomeres. Scapus and pedicellus nearly circular in cross-section. Scapus slightly longer than wide. Pedicellus slightly narrower at the apex; length slightly shorter than scapus. Antennomere III about as long as the scapus and pedicellus combined lengths. All following segments are shorter than segment III, and vary slightly in lengths, no obvious pattern discernable.

Thorax. – Pronotum slightly rounded trapezoidal, the anterior margin slightly wider than the posterior margin (Fig. 3A). When viewed laterally, the anterior half of the pronotum is strongly raised into a somewhat lemniscate bulge above the posterior half (Fig. 3D). Pronotum dorsal surface marked by a faint sagittal furrow which on the anterior margin forms a distinct pit (Fig. 3A). Pronotal foramen located on each side of the anterior margin, angled slightly laterally. Posterior pronotum margin slightly thickened and straight. Mesonotum nearly rectangular, instead slightly trapezoidal as the anterior is slightly thinner than the posterior margin (Fig. 3A); ~1.3x longer than pronotum and ~1.5x longer than wide. Mesosternum flat and smooth, marked only with a slight longitudinal sagittal furrow on anterior half only. Metanotum slightly wider than long, simple. Metasternum simple. Tegmina small and petal-like with a slight longitudinal fold. Alae reaching halfway along abdominal segment VII. Radial vein

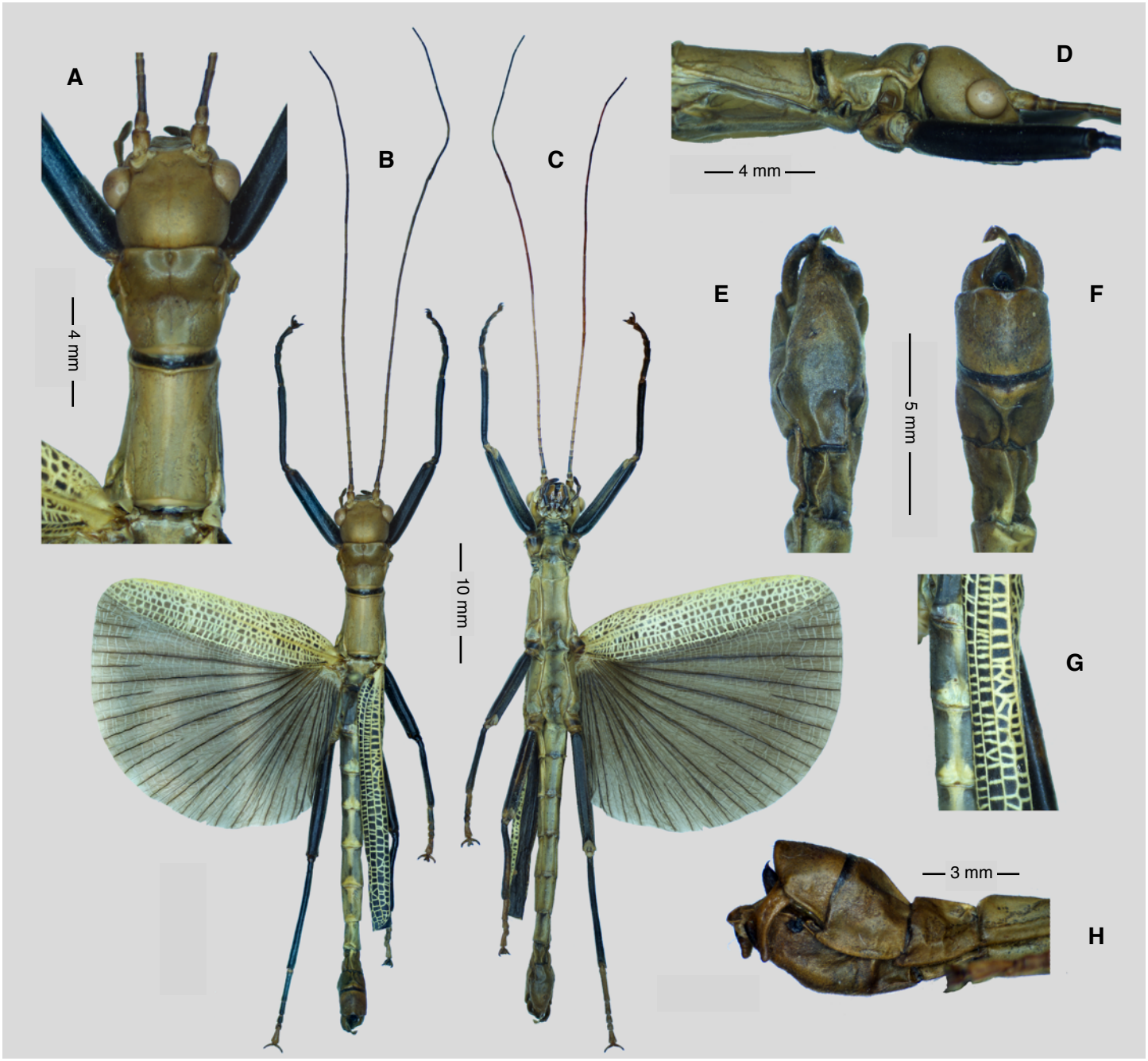

Fig. **3**. *Orthomeria marceli* **sp**. **nov**., ♂, holotype [IMQC].

A. Base of antennae, head, pro- and mesothorax, dorsal. **B**. Dorsal habitus. **C**. Ventral habitus. **D**. Head and thorax, lateral. **E**. Terminalia, ventral. **F**. Terminalia, dorsal. **G**. Details of folded ala and abdominal segments. **H**. Terminalia, lateral.

thickest and sclerotized, others slightly thinner; all ala veins simple and unbranched. Numerous short crossveins present across the ala. Median segment ~1.7x longer than the metanotum.

Abdomen. – Abdomen (excluding median segment) ~1.27x longer than head, thorax, and median segment lengths combined. Segments II–VI very slightly narrowing to the anterior of segment VII the narrowest portion of the abdomen; VII-IX widening slightly; X uniform thickness throughout its length. Epiproct small and fully hidden under anal segment. Vomer large and triangular, surface covered in stiff, short setae, except for on the small strongly curved and sharp terminal hook (Fig. 3H). Cerci long and prominent, laterally compressed, inward and downward curving, ending with a broad hatchet-like shape where the exterior margin projects longer into a broad, dull point; interior apical margin straight and finely edged (Fig. 3H). Sterna IX deeply keeled and projecting beyond the apex of the abdomen with about ¼ of its length projecting beyond the apex of the abdomen (Fig. 3H).

Legs. – All femora circa twice as thick as their corresponding tibiae; tibiae similar lengths to their corresponding femora. All femora and tibiae simple, tube-like, and smooth, at most marked with slight setae. Basitarsus of all tarsi similar in length to the following three segments combined. Ungues slightly pectinate.

♀

Coloration. – Antennae and head dark yellow colored. Thorax and legs are grey-yellow. Compound eyes burnt orange in color. Abdomen: ventral surface a similar grey-yellow to the thorax; abdominal segments dorsal surface patterned, grey-yellow base color and each segment is marked with a faded yellow triangle on the posterior margin (Fig. 4B). Tegmina grey-yellow like the thorax coloration.

Costal region of alae with black membranous areas surrounded by bright yellow veins (Fig. 4B). Anal region of alae with grey membranous areas; primary veins dark grey near the distal ends of the ala, proximal ends of the primary veins more yellow; transverse crossveins transparent.

Head. – Slightly wider than long, slightly prognathous when viewed laterally, vertex flat and smooth (Fig. 4D). Compound eyes large, occupying slightly less than ½ of the head capsule lateral margin (Fig. 4D). Gula sclerite squat and not very wide. Antennae long, consisting of at least 50 antennomeres (paratype female has the tips of both antennae missing). Scapus slightly compressed dorsally, pedicellus nearly circular in cross-section. Scapus stout, slightly longer than wide. Pedicellus slightly narrower at the apex; length slightly shorter than scapus. Antennomere III slightly shorter than the scapus and pedicellus combined lengths. All following segments are shorter than segment III, and vary slightly in lengths, no obvious pattern discernable.

Thorax. – Pronotum a slightly rounded square, nearly the same length as width (Fig. 4D). When viewed laterally, the anterior half of the pronotum is slightly raised into a somewhat lemniscate bulge above the posterior half. Pronotum dorsal surface marked by a faint sagittal furrow on the raised anterior bulge, but no other prominent features across the rest of the surface (Fig. 4D). Pronotal foramen located on each side of the anterior margin, angled slightly laterally. Posterior pronotum margin slightly thickened and straight. Mesonotum trapezoidal with the posterior ~1.59x wider than the anterior margin; ~1.5x longer than the pronotum (Fig. 4D). Mesosternum flat and smooth, marked with long yellow setae along the lateral sutures. Metanotum ~1.6x wider than long, simple. Metasternum simple, similar yellow setae on the lateral sutures as found on the mesosternum. Tegmina small and petal-like with a slight longitudinal fold. Alae reaching to the anterior margin of abdominal tergite VI. Radial vein thickest and sclerotized, others slightly thinner; all ala veins simple and unbranched in the paratype right ala (left ala with some slightly aberrant branching/fusing of the veins that appears atypical). Numerous short crossveins present across the ala. Median segment ~1.6x longer than the metanotum.

Abdomen. – Abdomen (excluding median segment) ~1.38x longer than head, thorax, and median segment lengths combined. Segments II–VII with similar lengths and widths, and nearly parallel sided. Abdominal segments III-IX with distinct lateral flanges on each segment, slightly narrower on the anterior and widening towards the posterior of the segment, giving the abdomen and overall wave-like scalloped edge appearance (note: the lateral flanges are folded under on most of the segments in the paratype specimen, and are mostly visible from the ventral aspect (Fig. 4A), but one is unfolded on the right side of segment VI and on both sides of segments VIII and IX making them clearly visible on the dorsal view (Fig. 4C)). II-VIII circa each the same length and width. Segment IX ~1.9x wider than long. Terminal tergum tectiform with the central portion projecting beyond the lateral edges; central portion projecting out to the length of the subgenital plate apex, ending in a broadly rounded apex (Fig. 4F). Epiproct very small and wholly concealed under anal segment. Cerci small, laterally flattened, covered throughout by long setae, gently converging throughout the length to the broad, rounded apex, projecting slightly beyond the posterior margin of anal segment (Fig. 4F). Subgenital plate not deeply keeled (slightly stronger towards the apex), a similar length to the abdomen apex, not projecting beyond; posterior margin not particularly narrow, moderately broad (Fig. 4F).

Legs. – All femora only slightly thicker than their corresponding tibiae; all tibiae slightly shorter than their corresponding femora. All femora and tibiae simple, tube-like, and smooth, all surfaces slightly pubescent. Basitarsus of all tarsi similar in length to the following three segments combined. Ungues slightly pectinate.

Comments. – This species is currently only known from the single type pair illustrated herein. Review of museum and private collections did not yield additional specimens. Eggs and freshly hatched nymphs currently unknown.

Distribution. – Presently only known from the type locality, Barlig, Mountain Province, Luzon, Philippines. Barlig sits at around 1,800 meters elevation, so this species should be considered a high elevation species.

Measurements [mm]. **Holotype**, ♂.

Body 44.1
Head 4.0
Pronotum 4.0
Mesonotum 5.7
Metanotum 2.3
Median segment 4.0
Tegmina 1.2
Alae 22.5
Profemora 7.5
Mesofemora 6.7
Metafemora 10.6
Protibiae 6.6
Mesotibiae 5.9
Metatibiae 9.8
Antennae 36.1

Measurements [mm]. **Paratype** ♀

Body 60.2
Head 6.5
Pronotum 5.5
Mesonotum 6.9
Metanotum 3.5
Median segment 4.9
Tegmina 1.5
Alae 25.2
Profemora 9.1
Mesofemora 9.3
Metafemora 11.9
Protibiae 8.1
Mesotibiae 7.7
Metatibiae 11.8
Antennae 41.5

Discussion. – The two new species described herein—*Orthomeria marceli* sp. nov. from Luzon and *Orthomeria javieri* sp. nov. from Palawan—broaden the known morphological diversity of *Orthomeria*, especially in terms of coloration. Both are readily distinguishable from all previously described species, with *Orthomeria marceli* sp. nov. exhibiting an unprecedented yellow coloration across the head, thorax, and abdomen, which contrasts sharply with the mostly dark brown or black coloration typical of other species in the genus. *Orthomeria javieri* sp. nov. featuring males with bicolored legs (lighter colored tibiae and darker femora) contrasts with all known species as all others have mono-colored legs with tibiae and femora matching. These distinctive morphological characters provide strong support for their recognition as separate species and importantly, remove them from inclusion in the problematic taxonomic grouping surrounding *Orthomeria pandora*.

The current synonymy between *Orthomeria pandora* and *Orthomeria catadromus* warrants reevaluation as well as much needed clarification on the species in general. From review by the authors of private and institutional collections containing *Orthomeria*, the coloration and morphology presented in *Orthomeria pandora* and *Orthomeria catadromus* appears to be very widespread throughout the archipelago, with little morphologically to differentiate different populations. Given the lack of clearly defined localities from the type specimens, it is plausible that this taxon represents a complex of morphologically similar, yet distinct, species. Untangling this potential species complex will require review of specimens from throughout the range, detailed morphological review, and—critically—molecular phylogenetic analyses to resolve the boundaries and relationships among the lineages involved.

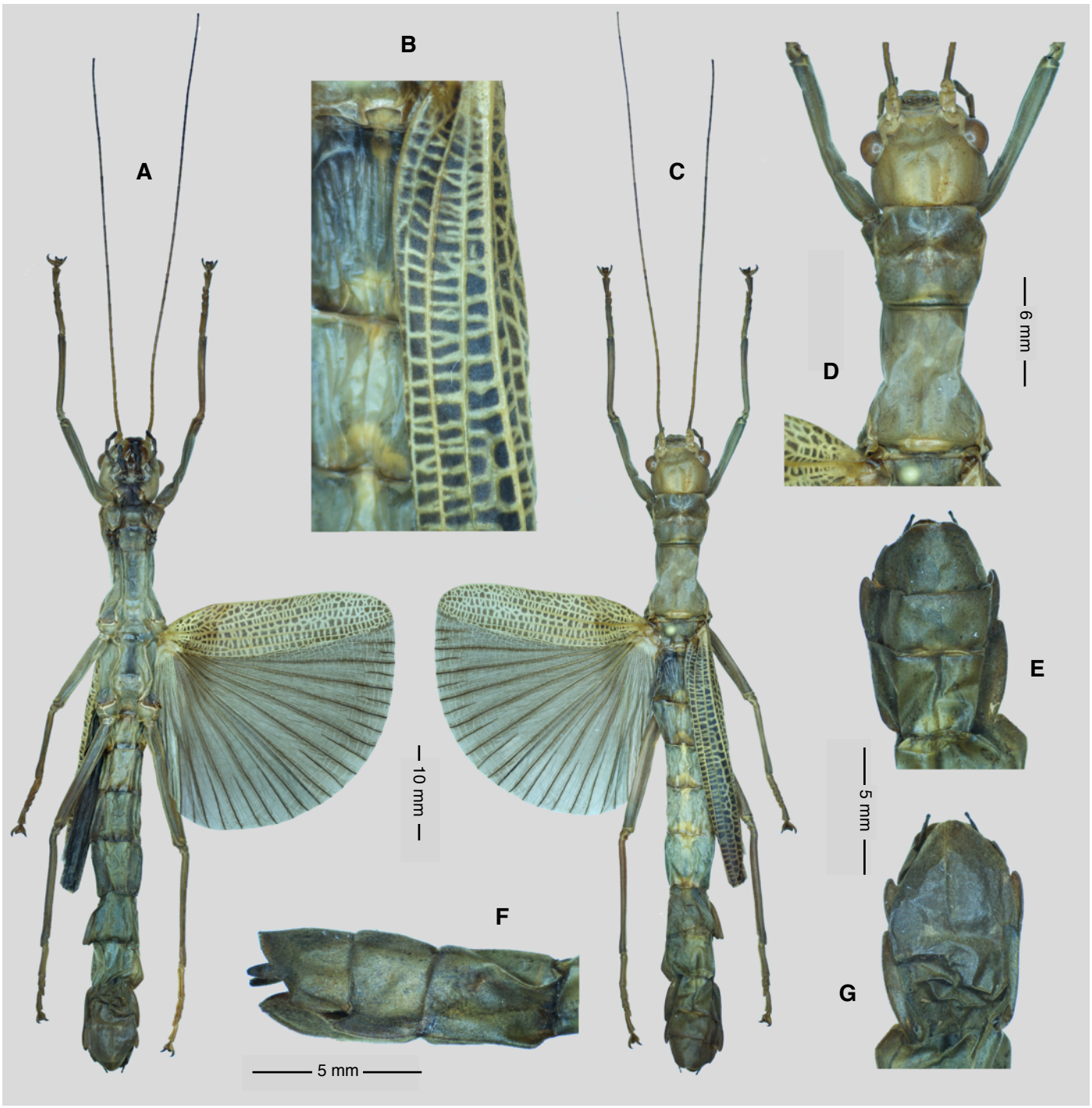

Fig. **4**. *Orthomeria marceli* **sp**. **nov**., ♀, paratype [Coll RC].

A. Ventral habitus. **B**. Details of folded ala and abdominal segments. **C**. Dorsal habitus. **D**. Base of antennae, head, pro- and mesothorax, dorsal. **E**. Terminalia, dorsal. **F**. Terminalia, lateral. **G**. Terminalia, ventral.

In contrast, the new species presented herein are based on clearly defined type localities, include both sexes, and display clear diagnostic traits, allowing for confident delimitation without immediate reliance on molecular data. Their discovery highlights the value of continued fieldwork and taxonomic revision, particularly in biogeographically complex regions such as the Philippine archipelago, where endemism and hidden diversity are often high. As such, this contribution not only clarifies part of the *Orthomeria* but also reinforces the need for integrative approaches to resolve older, morphologically ambiguous taxa within the group.

Acknowledgements

The first author wishes to thank Marcel Gustavo Hermes (Brazil) and Javier Blasco-Aróstegui (Spain) for their years of friendship and support; the first author's journey through his PhD at the American Museum of Natural History was certainly made possible thanks to having them by his side. The manuscript benefited from the useful comments of our peer reviewer who helped clarify and improve the manuscript greatly.

Key to *Orthomeria* species

Modified from Bragg (2001), Vallotto et al. (2016), and includes the species described within Hennemann (2021) as well as those described herein.

♂♂

1. Head, thorax, and abdomen yellow in color ..... ***O. marceli* sp. nov.**
– Head, thorax, and abdomen black/brown in color **2**

2. Tibiae and tarsi yellow in color ..... ***O. javieri* sp. nov.**
– Tibiae and tarsi black/brown in color **3**

3. Anal area of alae with large sky blue colored area **4**
– Anal area of alae uniformly dark or slightly lightening in color at the base, no distinct blue coloration **5**

4. Alae with sky blue region not circular, beginning at A6; base of A 1-5 not blue ..... ***O. superba***
– Alae base with a nearly circular sky blue area which crosses all anal veins ..... ***O. versicolor***

5. Short winged species, alae projecting onto abdominal tergum V or VI **6**
– Long winged species, alae projecting over abdominal tergum VII **8**

6. Costal area of ala with distinct orange area **7**
– Costal area of ala with a distinct blood red area ..... ***O. kangi***

7. Antennae black ..... ***O. forstenii***
– Antennae dull orange ..... ***O. limogesi***

8. Mesonotum more than 1.5 times longer than the pronotum ..... ***O. pandora***
– Mesonotum shorter than one and a half times the length of pronotum **9**

9. Anterior portion to radial vein of hind wing uniformly yellow; base of antennae black, proceeding segments rust coloured ..... ***O. smaragdinum***
– Anterior portion to radial vein of hind wing yellow with black cells; antennae uniformly black ..... ***O. xanti***

♀♀*

1. Head, thorax, and abdomen yellow in color ..... ***O. marceli* sp. nov.**
– Head, thorax, and abdomen black/brown in color **2**

2. Anal area of alae with large sky blue area **3**
– Anal area of alae uniformly dark or slightly lightening in color at the base, no distinct sky blue area **4**

3. Alae with sky blue region not circular, beginning at A6; base of A 1-5 not blue ..... ***O. superba***
– Alae with an almost circular sky blue area which crosses all the anal veins ..... ***O. versicolor***

4. Alae short, ending on abdominal segment IV ..... ***O. javieri* sp. nov.**
– Alae longer, reaching at least ¾ of the way onto abdominal segment V **5**

5. Sclerotized area of alae distinctly bicolored, with the costal half of the alae sclerotized area with veins and membranous areas of the same lighter color while the posterior half of the sclerotized area has dark/black membranes and lighter colored veins **6**
– Sclerotized area of alae the same color pattern throughout, veins lighter colored and membranous areas black/dark **7**

6. Tegmina red; costal area of alae with red markings ..... ***O. kangi***
– Tegmina orange or green; costal area of alae with orange or green marking ..... ***O. forstenii***

7. Head slightly wider than the pronotum; antennae dark brown ..... ***O. pandora***
– Head slightly narrower than the pronotum; dull orange antennae ..... ***O. limogesi***

***** Females of *Orthomeria smaragdinum* and *Orthomeria xanti* are unconfirmed. *Orthomeria pandora* female is based upon the type specimen of *Orthomeria catadromus*.

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Résumé

Cumming R.T. & Le Tirant S., 2025. – Deux espèces nouvelles du genre *Orthomeria* Kirby, 1904 d'une couleur inédite (Aschiphasmatidae: Phasmatodea). *Faunitaxys*, 13(47) : 1 – 11.

Actuellement, huit espèces sont reconnues dans le genre *Orthomeria* Kirby, 1904 et toutes possèdent des pattes et un corps généralement, voire entièrement, uniformément bruns ou noirs. Nous décrivons ici deux nouvelles espèces d'*Orthomeria* à la coloration jaune unique. *Orthomeria marceli* **sp**. **nov**., décrite du mont Barlig, à Luzon (Philippines), se distingue de ses congénères par la tête, le thorax et l'abdomen jaunes des deux sexes. *Orthomeria javieri* **sp**. **nov**., décrite de Roxas, à Palawan (Philippines), se distingue de ses congénères par les tibias/tarses plus clairs chez les mâles et par les ailes postérieures exceptionnellement courtes de la femelle, n'atteignant qu'environ la moitié de la surface dorsale de l'abdomen au repos. Pour terminer, une clé des espèces d'*Orthomeria* est présentée, incluant les nouvelles espèces, ainsi que les sexes opposés jusqu'alors inconnus.

Mots-clés. – Phasmida, Phasmids, *Orthomeria*, taxonomie, description, nouvelle espèce, Luzon, Palawan, Philippines, Asie du Sud-Est.

Faunitaxys

Volume 13, Numéro 47, Septembre 2025

SOMMAIRE

Deux espèces nouvelles du genre *Orthomeria* Kirby, 1904 d'une couleur inédite (Aschiphasmatidae: Phasmatodea).

Royce T. Cummin & Stephane Le Tirant . . . . . 1 – 11

CONTENTS

Golden *Orthomeria* Kirby, 1904; two new species with uncommon coloration (Aschiphasmatidae: Phasmatodea).

Royce T. Cummin & Stephane Le Tirant . . . . . 1 – 11

Illustration de la couverture :
Palwan Forest, Philippines.

Crédits:

Royce T. **Cumming** : Fig. 1 A-H, 2 A-H, 3 A-H, 4 A-H.

Publié par l'Association Française de Cartographie de la Faune et de la Flore (AFCFF)